

Heavy Quarkonium Physics

N. Brambilla¹, R. Vogt^{2,3} *et al.*

¹*Universita di Milano and INFN, Milano, Italy*

²*Nuclear Science Division, Lawrence Berkeley National Laboratory, Berkeley, CA*

³*Department of Physics, University of California, Davis, CA*

Abstract

This report [1] is the result of the collaboration and research effort of the Quarkonium Working Group over the last three years. It provides a comprehensive overview of the state of the art in heavy quarkonium theory and experiment, covering quarkonium spectroscopy, decay, and production, the determination of QCD parameters from quarkonium observables, quarkonia in media, and the effects on quarkonia of physics beyond the Standard Model. An introduction to common theoretical and experimental tools is included. Future opportunities for research in quarkonium physics are also discussed.

Table of Contents

1. Common theoretical tools
2. Common experimental tools
3. Spectroscopy

4. Decay
5. Production
6. Precision determinations of QCD parameters from quarkonia
7. Charm and beauty in media
8. Beyond the Standard Model
9. Future Experimental Facilities
10. Outlook

[1] N. Brambilla et al. (2004), hep-ph/0412158.